Response to MDEQ Comments on
Draft Technical Memorandum
Proposed Reconnaissance I Plan, Spring 2017
Kalamazoo River OU5, Area 5
Documented submitted March 2, 2017
Comments received March 24, 2017
Response to Comments submitted August 24, 2017

USEPA approved the Draft Technical Memorandum Proposed Reconnaissance I Plan, Spring 2017 on April 19, 2017 with no comments or changes to the document. Therefore, the draft submitted on March 2, 2017 is the final document and will not be revised. However, a response to MDEQs comments is provided below as a professional courtesy and to indicate how future documents and work would proceed based on the comments.

Comments in italic and the response in regular text are shown below.

Comment 1 on Section 1.0: *Sample plan should also account for calculation of TEQ which includes coplanar PCBs.*

Response: The draft Field Sampling Plan (FSP) for Area 5 is scheduled to be submitted during the winter of 2017/2018. Consistent with Area 4 sampling and analysis, the FSP will include the sampling of soil and fish for dioxins and furans (D/Fs) and coplanar polychlorinated biphenyls (PCBs) (also referred to as dioxin-like PCB compounds or DLCs). Total toxicity equivalent quotient (TEQ) calculations in the Supplemental Remedial Investigation (SRI) report will include D/F and DLC TEQs.

Comment 2 on Section 1.0: *Any use of innovative techniques should be calibrated against known and accepted techniques, at fully representative sample depths and areal locations.*

Response: The innovative techniques proposed during the first phase of Area 5 reconnaissance (Recon I) are two analytical methods to measure grain size and particle concentrations: 1) sedimaging for the coarse fraction, and 2) laser scattering for the fine fraction. The discrete sediment and soil samples collected will be “calibrated” by splitting and sending 100 percent of the samples to Eurofins laboratory for traditional sieve analysis for the coarse fraction and hydrometer analysis for the fine fraction. Recon I is planned to pilot test these innovative analytical methods in a small section of the river surface. If the results of the pilot test are representative, the remainder of Area 5 (areal extent) and depths will be analyzed for grain size during the subsequent reconnaissance phase (Recon II) using sedimaging and laser scattering. If the pilot test results suggest otherwise, grain size will likely be analyzed using traditional analytical methods for the remainder of the river and at depth. In addition, the grain size results and interpolation can be compared to the “known and accepted techniques” of electromagnetic (EM) geophysical data (also collected within the pilot test areas) and the ground penetrating radar (GPR) data collected by MDEQ.

Comment 3 on Section 1.0: *Sufficient comparison analyses need to be applied to the data to identify if positive correlations exist. The final decision of what “correlates well” will likely be qualitative. As such, all parties will need to provide input on useful techniques.*

Response: Amec Foster will include quantitative and qualitative methods to evaluate the results of the data collected during Recon I, including the pilot test results. The evaluation will include

input from the Area 5 Work Group consisting of GP, MDEQ, USEPA, and their respective consultants.

Comment 4 on Section 3.1: *Remove references to 30 consecutive days per year inundation representing sediment.*

Response: The ordinary high water mark (OHWM) will serve as the delineation between soil and sediment. In areas where the OHWM is difficult to identify, such as low-lying areas, sediment will be defined as the area that is estimated to be inundated for 30 or more consecutive days, based on the hydrodynamic models. This approach is consistent with that approved by USEPA and implemented in Area 4.

Comment 5 on Section 3.2: *It is not clear why RM 37.8 was selected. Anecdotal data would suggest the point of inundation is further upstream.*

A description of how recon activities within Tannery Creek will be conducted should also be provided in the report or recognition that adaptive management in the field is necessary.

A simple surface water profile will be very useful in evaluating slopes for later data interpretation (e.g., float the entire length of the impoundment collecting elevation data to determine slope of surface water and relative surface water velocity.

Response: The extent of impoundment is unknown at this time and will be estimated based on hydrodynamic modeling. RM 37.8 is a rough approximation of the extent of inundation based on references stating the river is impounded for 1.8 miles upstream of the dam. It is included in the document as an approximation to delineate what we are referring to as impounded versus non-impounded for Recon I activities only.

Reconnaissance in Tannery Creek will be conducted during Recon II activities to the extent that it is included within the study boundary.

Water surface elevations from the LiDAR data (Nov 2016) will provide useful information on surface water slope. We are also measuring water levels at two recording staff gages: one upstream at the 26th Bridge and one downstream within the impoundment. In addition, water surface elevations will be surveyed during installation of the erosion pins. Water velocities will be measured during the summer of 2017 when water levels have dropped to the extent that the field crew can walk across the transects and collect pebble counts. These events are part of the overall work plan.

Comment 6 on Section 4.1: *Coring should be a part of Recon I activities. Coring would allow the characteristics of the subsurface materials (i.e., those materials below what would be typically collected by just a surface grab sample) to be definitively quantified.*

Response: Coring will be included in Recon II activities. Cores will be logged and grain size will be analyzed at that time to characterize grain size and depth. One of the objectives of Recon I is to pilot test an alternative field-based grain-size method; if this method is successful, this alternative method may be used to characterize the cores in Recon II.

Comment 7 on Section 5.0: *It is agreed that these new techniques may add significant understanding during the recon process. However, any use of innovative techniques should be*

calibrated against known and accepted techniques, at representative sample depths and areal locations.

Response: See response to Comment 2.

Comment 8 on Section 5: *All techniques should consider the depths that are necessary to characterize the site.*

Response: Acknowledged. See response to Comments 2 and 6.

Comment 9 on Section 6.2: *It is not clear where the summer timeframe for field recon comes from. It has historically been recognized that work in the FP is typically during the Spring when vegetation is not yet established. Full vegetation conditions will limit the effectiveness of recon work. Furthermore, Tannery Creek should also be included in recon areas.*

Response: Floodplain reconnaissance will occur after the study boundary has been estimated to understand the extent of necessary floodplain coverage. Identifying and mapping vegetation is a main data collection activity for the floodplain reconnaissance, and these data can more easily be collected during the summer.

Comment 10 on Figure 3b: *It is not clear why the area in the blue box was selected. Many other areas that are lower appear to be falling into a no defined group that falls between instream and floodplain. For example, see below.*

Response: The selected area has several advantages for the soil grain size pilot test. It appears, based on desktop aerial review, that the area is dry during the spring, may represent soil, and may be within the study boundary. In addition, the area selected is not forested. All of these conditions facilitate data collection during the geophysical surveying portion of Recon 1. Classification of the floodplain will be performed after the study boundary is established based on hydrodynamic modeling as well field surveys.